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## United States Patent [19]

#### Blake et al.

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#### [54] METHOD OF MAKING AN ASPHERIC SOFT LENS

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#### Related U.S. Application Data

- [62] Division of application No. 08/161,194, Dec. 1, 1993, which is a continuation of application No. 08/028,522, Mar. 10, 1993, abandoned, which is a continuation of application No. 07/626,736, Dec. 13, 1990, abandoned, and a continuation-in-part of application No. 07/509,871, Apr. 16, 1990, Pat. No. 5,019,099, which is a continuation of application No. 07/232,140, Aug. 15, 1988, Pat. No. 4,917,681, which is a division of application No. 07/088,227, Aug. 24, 1987, Pat. No. 4,769,033, which is a division of application No. 07/262,985, Oct. 26, 1988, Pat. No. 5,104,590.
- [51] Int. Cl.<sup>6</sup> ...... B29D 11/00

#### [56] References Cited

### U.S. PATENT DOCUMENTS

385,905 7/1988 Cannon . 2,823,417 2/1958 Pasini et al. .

(List continued on next page.)

### FOREIGN PATENT DOCUMENTS

1103399	11/1955	France .
2556665	6/1977	Germany .
2717706	10/1978	Germany
2725219	12/1978	Germany
3-71898	11/1991	Japan .

#### OTHER PUBLICATIONS

Waters, Tom, "3-D Comes Home," *Discover*, May 1988, pp. 30-32.

"Early Trials Show No Blurring of Vision with Multifocal IOL," *Opthalmogy Times*, Aug. 15, 1988, p. 27.

Jaffe, Norman, et al., "Preoperative Estimation of Intraocular Implant Lens Power," *PSEUDOPHAKOS*, C.V. Mosby Company, St. Louis, 1978, pp. 58–60.

Bohn, Virginia, "Bifocal IOL Implanted in England; U.S. Trials May Begin This Month," *Ocular Surgery News*, vol. 5, No. 11, Jun. 1, 1987, pp. 1, 12–13.

Bohn, Virginia, "No Near Corrections Needed by Almost 50 in Bifocal IOL Series," *Ocular Surgery News*, vol. 5, No. 11, Jun. 1, 1987, pp. 1, 14–15.

"The 3M Multifocal IOL," 3m Health Care Brochure, 1988, pp. 1–4.

The Shah Bifocal Universal MK II Intraocular Lens.

Donald, Tim, "Silicone Demonstrates Suitable Optic Characteristics in Resolution Testing," *Ocular Surgery News*, vol. 6, No. 16, Aug. 15, 1988, pp. 16–17.

"Resolution Efficiency in Water Supported as New IOL Standard," *Opthalmology Times*, Apr. 15, 1987, pp. 46 and 48

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#### [57] ABSTRACT

An aspheric soft intraocular lens, having an optical power surface, which may have multiple radii portions or aspherical portions, as well as spherical portions, intended to replace the crystalline lens of a patient's eye, in particular after a cataract extraction. Such an aspheric soft lens is molded in a coined mold. A pair of core pins, positioned within the mold cavity during the lens forming process, will produce a pair of haptic-mounting holes within the lens. As the lenses are subsequently tumbled to remove flash, indentations will form adjacent to the haptic-mounting holes. These indentations allow for tangential attachment of the haptic to the lens which, in turn, enables maximum flexibility without exceeding the width of the optic.

#### 4 Claims, 8 Drawing Sheets

